

County Permitting Requirements for Geotechnical Borings

Presented by

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History of Standards

- State Department of Water Resources (DWR) requirements
- Began working on standards in 1949.
- Initial draft of Bulletin 74 released in 1962.
- Put in the statutes of 1967, with amendments in Porter-Cologne Water Quality Control Act in 1969, with updates in 1981 (74-81) and 1990 (74-90)



History of Standards

- County of San Diego requirements – initially took effect 4-3-74, Ordinance #4286

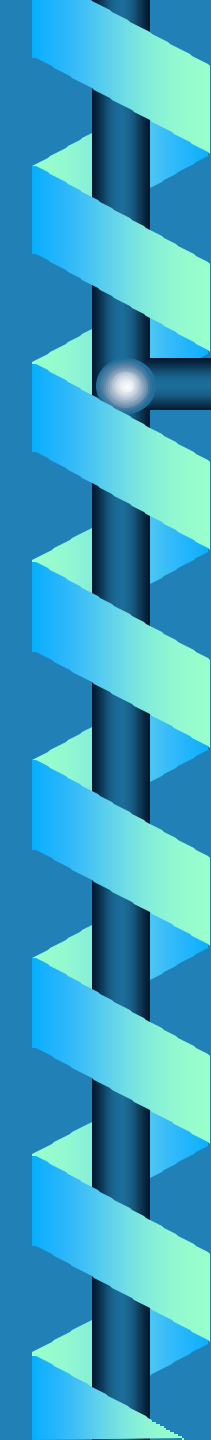
History of Standards

- SAM standards – initially started permitting in 1986, with standards listed in SAM Manual. Those standards were presented at that time to the geotechnical community at an SDAG meeting by Kevin Heaton. Stricter local standards supercede State standards.



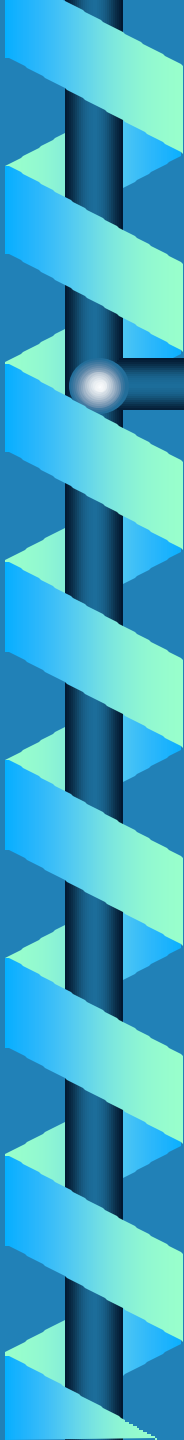
Specifics of DWR 74-90: Limitations of Standards

- It is the ultimate responsibility of the well owner and/or the owner's technical and/or contractor representative(s) to ensure that a well does not constitute a significant pathway for the movement of poor-quality water, pollutants, or contaminants; does not constitute a public nuisance or hazard; and adequately performs a desired function.



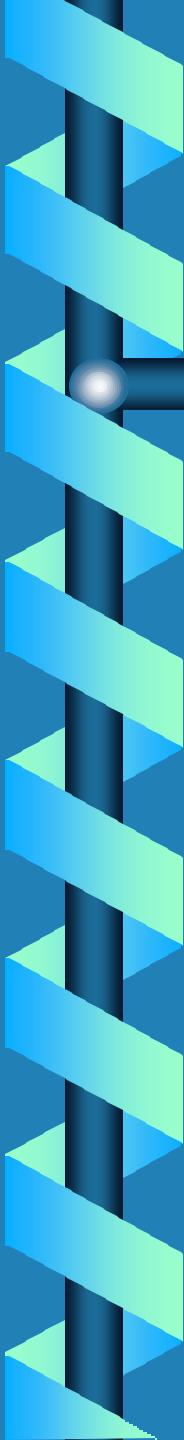
Specifics of DWR 74-90: Applicability

- Alteration, maintenance, and destruction standards presented in this supplement apply to all water wells, monitoring wells, cathodic protection wells, and “borings” regardless of their original date of construction.



Specifics of DWR 74-90: Section 18. General Requirements

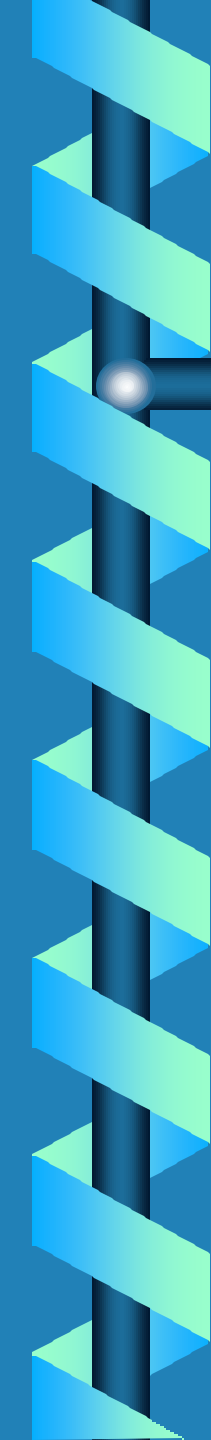
- All permanently inactive or “abandoned” monitoring wells and exploration holes subject to these requirements shall be properly destroyed. The purposes of destruction are to eliminate the well structure and borehole as a possible means for the preferential migration of poor-quality water, pollutants, and contaminants; and, to prevent a possible hazard to humans and animals.



Specifics of DWR 74-90:

B. Exploratory Borings.

- Exploratory borings shall be completely filled with appropriate sealing material from bottom to top, if located in areas of known or suspected contamination or pollution. Borings located outside such areas shall, at a minimum, be filled with sealing material from ground surface to the minimum depths specified in Section 23 of the Water Well Standards.



Specifics of DWR 74-90:

B. Exploratory Borings.

- ... The enforcing agency shall be notified as soon as possible if pollutants or contaminants are known or suspected to be in a boring to be destroyed. Well destruction operations may then proceed only at the approval of the enforcing agency. The enforcing agency should be contacted to determine requirements for proper disposal of removed materials.



Specifics of DWR 74-90:

C. Sealing and Fill Materials.

- Materials used for sealing exploratory borings and monitoring wells shall have low permeabilities so that the volume of water and possible pollutants and contaminants passing through them will be of minimal consequence.



Specifics of DWR 74-90:

C. Sealing and Fill Materials.

- ... Drilling mud or drill cuttings are not acceptable as any part of sealing material for well destruction.



Specifics of DWR 74-90:

C. Sealing and Fill Materials.

- ... Fill material shall be free of pollutants and contaminants and shall not be subject to decomposition or consolidation after placement. Drilling mud or drill cuttings are not acceptable as any part of fill material.



Specifics of the County Well Ordinance – Definitions:

- ABANDONED AND ABANDONMENT:
- The terms "abandoned" or "abandonment" shall apply to a well which has not been used for a period of one year,

Specifics of the County Well Ordinance – Definitions:

- (continued)...Test holes and exploratory holes shall be considered abandoned **twenty-four hours** after construction work has been completed, unless otherwise approved by the Director of the Department of Environmental Health of San Diego County.

Specifics of the County Well Ordinance – Definitions:

- DESTRUCTION:
- The proper filling and sealing of a well that is no longer useful so as to assure that the groundwater is protected and to eliminate a potential physical hazard



Specifics of the County Well Ordinance – Definitions:

- MONITORING WELL:
- A well used for monitoring or sampling the conditions of soil or water-bearing aquifer, such as water pressure, depth, movement, concentration of contaminants or quality.

Specifics of the County Well Ordinance – Definitions:

- TEST OR EXPLORATORY HOLE:
- An excavation used for determining the nature of underground geological or hydrological conditions, whether by seismic investigation, direct observation or any other means.

Specifics of the County Well Ordinance – Definitions:

- WELL
- Any artificial excavation constructed by any method for the purpose of extracting water from or injecting water into the underground, for providing cathodic protection or electrical grounding of equipment, for making tests or observations of underground conditions, or for any other similar purpose.

Specifics of the County Well Ordinance – Definitions:

- (continued) **Wells shall include**, but shall not be limited to, community water supply wells, individual domestic wells, commercial wells, industrial wells, agricultural wells, **test and exploratory holes**, monitoring wells and salt water (hydraulic) barrier wells, as defined herein, and other wells whose regulation is necessary to accomplish the purposes of this chapter.

Specifics of the County Well Ordinance – Definitions:

- **Wells shall not include:** (a) oil and gas wells, geothermal wells or other wells constructed under the jurisdiction of the State Department of Conservation, except those wells converted to use as water wells; (b) **wells used for the purpose of dewatering excavations during construction, or stabilizing hillsides or earthy embankments;** or (c) other wells whose regulation is not necessary to fulfill the purpose of this chapter as determined by the Director of the Department of Environmental Health.

Specifics of the County Well Ordinance – Definitions:

- **SEC. 67.440. ACTS PROHIBITED.**

No person shall construct, repair, reconstruct or destroy any well unless a written permit has first been obtained from the Director of the Department of Environmental Health as provided in this Chapter, and unless the work done shall conform to the standards specified in this Chapter and all the conditions of the said permit.

(Amended by Ord. No. 7428 (N.S.), effective 2-4-88; amended by Ord. No. 8477 (N.S.), adopted 11-8-94, operative 1-1-95)

Specifics of the County Well Ordinance – Definitions:

- C. Conditions:
- Permits shall be issued in compliance with the standards provided in this Chapter ... Permits may also include any other condition or requirement found by the Director of the Department of Environmental Health to be necessary to accomplish the purposes of this Chapter.

Criteria For Well Permitting - 1987

- On sites where hazardous materials/wastes are stored, proposed to be stored and/or where soil contamination or groundwater contamination is suspected, the following criteria shall be used for requiring well permits.
- 1. Any boring in which casing will be installed.
- 2. Any boring that has a monitoring device installed.
- 3. Any soil boring greater than 20 feet in depth.
- 4. Any soils boring that it is anticipated that the ground water table is shallower than 20 feet.

Criteria For Well Permitting – 1991

- Well permits are required on sites where hazardous waste or materials are stored, proposed to be stored or where soil and ground-water contamination is known or suspected, using the following criteria:
 - 1. Any boring in which a casing will be installed.
 - 2. Any boring that has a monitoring device installed.
 - 3. Any soil boring greater than 20 feet in depth.
 - 4. Any soil boring, shallower than 20 feet, where the ground-water table is anticipated to be encountered.

Criteria For Well Permitting – 1993

- Well permits are required on sites where hazardous waste or materials **have been stored**, are stored, are proposed to be stored or where soil and groundwater contamination is known or suspected, using the following criteria:
 - 1. Any boring in which a casing will be installed.
 - 2. Any boring that has a monitoring device installed.
 - 3. Any soil boring greater than 20 feet in depth.
 - 4. Any soil boring, 20 feet or less in depth, where the groundwater table is anticipated to be encountered.



Criteria For Well Permitting – 1994

- Well permits are required on sites **for exploratory or test borings** where hazardous-waste or materials have been stored, are stored, are proposed to be stored or where soil and groundwater contamination is known or suspected, using the following criteria:
 - 1. Any boring in which a casing will be installed.
 - 2. Any boring that has a monitoring device installed.
 - 3. Any soil boring greater than 20 feet in depth.
 - 4. Any soil boring, 20 feet or less in depth, where the groundwater table is anticipated to be encountered.



Criteria For Well Permitting – 1995

- Well permits are required on sites for exploratory or test borings where hazardous-waste or **hazardous** materials have been stored, are stored, are proposed to be stored or where soil and groundwater contamination is known or suspected, using the following criteria:
 - 1 Any boring in which a casing will be installed.
 - 2. Any boring that has a monitoring device installed.
 - 3. Any soil boring greater than 20 feet in depth.
 - 4. Any soil boring, 20 feet or less in depth, where the groundwater table is anticipated to be encountered.



Criteria For Well Permitting – 1996

- Well permits are required on sites for exploratory or test borings where hazardous waste or hazardous materials have been stored, are stored, are proposed to be stored or where soil and groundwater contamination is known or suspected, using the following criteria:
 - (1) any boring in which a casing will be installed.
 - (2) any boring that has a monitoring device installed.
 - (3) any soil boring greater than 20 feet in depth.
 - (4) any soil boring, 20 feet or less in depth, where the groundwater table is anticipated to be encountered.

Criteria For Well Permitting – 1997

- Well permits are required on sites for exploratory or test borings where hazardous waste or hazardous materials have been stored, are stored, are proposed to be stored or where soil and groundwater contamination is known or suspected.

Well permits are required for:

- (1) any boring in which a casing will be installed,
- (2) any boring that has a monitoring device installed,
- (3) any soil boring greater than 20 feet in depth, or
- (4) any soil boring, 20 feet or less in depth, where the groundwater table is anticipated to be encountered.



Criteria For Well Permitting – 2000

- Well permits are required on sites for exploratory or test borings where hazardous waste or hazardous materials have been stored, are stored, are proposed to be stored; or where soil and groundwater contamination is known or suspected. Well permits are required for:
 - (1) any boring in which a casing will be installed,
 - (2) any boring that has a monitoring device installed,
 - (3) any soil boring greater than 20 feet in depth, or
 - (4) any soil boring, 20 feet or less in depth, where the groundwater table is anticipated to be encountered.



Criteria For Well Permitting – 2002

- Well permits are required **on all sites** for:
- Any boring in which a casing will be installed
- Any boring that has a monitoring device installed
- Any soil boring greater than 20 feet in depth
- Any soil boring, 20 feet or less in depth, where the groundwater table is anticipated to be encountered

Criteria For Well Permitting – 2002

- In **areas** where hazardous waste or hazardous materials have **not** been stored, are **not** now stored, are **not** proposed to be stored; or where soil and groundwater contamination is **not** known or suspected, **a permit may be waived after review by DEH. For this determination submit a detailed site map and a description of the proposed work to assist in the evaluation.**



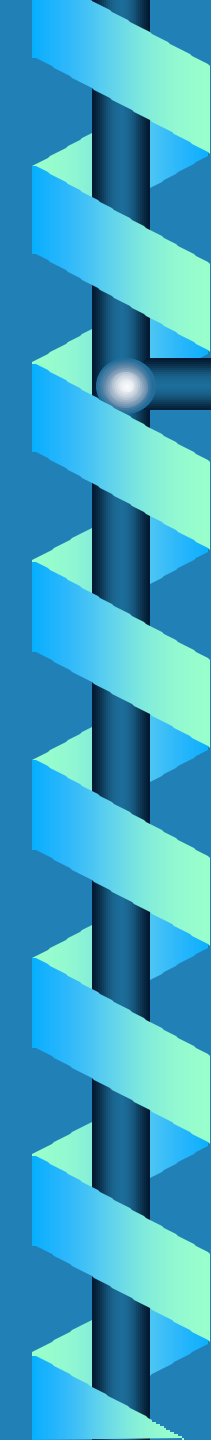
Why the change?

- Deep borings (some in excess of 80 feet) were being drilled on sites where contamination was known or should have been suspected without getting permits.
- Borings were being backfilled with contaminated cuttings and no sealing effort was made.
- These were done under the guise of “geotechnical borings, therefore the rules don’t apply”



Why now?

- It has only come to our attention in the last couple of years, since geotechnical work usually does not come into our office.
- It was discovered when a consultant drilled numerous borings on a contaminated site adjacent to our building downtown and backfilled them with cuttings without getting a permit.



Why now? (continued)

- With downtown redevelopment in full swing, we began receiving environmental reports on contaminated sites where geotechnical work had previously been done without getting a permit.
- This represents an unfair business advantage for those companies that choose to ignore the rules.



What if I don't get permits?

- Investigative fee of 100% of permit fee.
- Repeat offenders will be referred to their respective state licensing board.
- Administrative civil liabilities of up to \$10,000 per day per occurrence from the time of drilling until the problem is corrected.
- Submissions of false or misleading data to a government agency is a felony.